



SEQUENCE LISTING

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<120> CD44 LIGANDS

<130> 10280-063001

<140> US 10/663,244

<141> 2003-09-15

<150> US 60/410,758

<151> 2002-09-13

<150> US 60/469,123

<151> 2003-05-09

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<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 742

<212> PRT

<213> Homo sapiens

<400> 1

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Leu	Ser	Leu	Ala	Gln	Ile	Asp	Leu	Asn	Ile	Thr	Cys	Arg	Phe	Ala	Gly
		20						25					30		
Val	Phe	His	Val	Glu	Lys	Asn	Gly	Arg	Tyr	Ser	Ile	Ser	Arg	Thr	Glu
		35					40					45			
Ala	Ala	Asp	Leu	Cys	Lys	Ala	Phe	Asn	Ser	Thr	Leu	Pro	Thr	Met	Ala
		50				55					60				
Gln	Met	Glu	Lys	Ala	Leu	Ser	Ile	Gly	Phe	Glu	Thr	Cys	Arg	Tyr	Gly
65					70				75					80	
Phe	Ile	Glu	Gly	His	Val	Val	Ile	Pro	Arg	Ile	His	Pro	Asn	Ser	Ile
				85					90					95	
Cys	Ala	Ala	Asn	Asn	Thr	Gly	Val	Tyr	Ile	Leu	Thr	Ser	Asn	Thr	Ser
			100					105					110		
Gln	Tyr	Asp	Thr	Tyr	Cys	Phe	Asn	Ala	Ser	Ala	Pro	Pro	Glu	Glu	Asp
		115					120					125			
Cys	Thr	Ser	Val	Thr	Asp	Leu	Pro	Asn	Ala	Phe	Asp	Gly	Pro	Ile	Thr
		130				135					140				
Ile	Thr	Ile	Val	Asn	Arg	Asp	Gly	Thr	Arg	Tyr	Val	Gln	Lys	Gly	Glu
145					150					155				160	
Tyr	Arg	Thr	Asn	Pro	Glu	Asp	Ile	Tyr	Pro	Ser	Asn	Pro	Thr	Asp	Asp
				165					170					175	
Asp	Val	Ser	Ser	Gly	Ser	Ser	Ser	Glu	Arg	Ser	Ser	Thr	Ser	Gly	Gly
			180					185					190		
Tyr	Ile	Phe	Tyr	Thr	Phe	Ser	Thr	Val	His	Pro	Ile	Pro	Asp	Glu	Asp

	195		200		205										
Ser	Pro	Trp	Ile	Thr	Asp	Ser	Thr	Asp	Arg	Ile	Pro	Ala	Thr	Thr	Leu
	210						215					220			
Met	Ser	Thr	Ser	Ala	Thr	Ala	Thr	Glu	Thr	Ala	Thr	Lys	Arg	Gln	Glu
225					230					235					240
Thr	Trp	Asp	Trp	Phe	Ser	Trp	Leu	Phe	Leu	Pro	Ser	Glu	Ser	Lys	Asn
				245					250					255	
His	Leu	His	Thr	Thr	Gln	Met	Ala	Gly	Thr	Ser	Ser	Asn	Thr	Thr	Ile
			260					265					270		
Ser	Ala	Gly	Trp	Glu	Pro	Asn	Glu	Glu	Asn	Glu	Asp	Glu	Arg	Asp	Arg
		275					280					285			
His	Leu	Ser	Phe	Ser	Gly	Ser	Gly	Ile	Asp	Asp	Asp	Glu	Asp	Phe	Ile
	290					295				300					
Ser	Ser	Thr	Ile	Ser	Thr	Thr	Pro	Arg	Ala	Phe	Asp	His	Thr	Lys	Gln
305					310					315					320
Asn	Gln	Asp	Trp	Thr	Gln	Trp	Asn	Pro	Ser	His	Ser	Asn	Pro	Glu	Val
				325					330					335	
Leu	Leu	Gln	Thr	Thr	Thr	Arg	Met	Thr	Asp	Val	Asp	Arg	Asn	Gly	Thr
			340					345					350		
Thr	Ala	Tyr	Glu	Gly	Asn	Trp	Asn	Pro	Glu	Ala	His	Pro	Pro	Leu	Ile
		355					360					365			
His	His	Glu	His	His	Glu	Glu	Glu	Glu	Thr	Pro	His	Ser	Thr	Ser	Thr
	370					375					380				
Ile	Gln	Ala	Thr	Pro	Ser	Ser	Thr	Thr	Glu	Glu	Thr	Ala	Thr	Gln	Lys
385					390					395					400
Glu	Gln	Trp	Phe	Gly	Asn	Arg	Trp	His	Glu	Gly	Tyr	Arg	Gln	Thr	Pro
			405						410					415	
Arg	Glu	Asp	Ser	His	Ser	Thr	Thr	Gly	Thr	Ala	Ala	Ala	Ser	Ala	His
			420					425					430		
Thr	Ser	His	Pro	Met	Gln	Gly	Arg	Thr	Thr	Pro	Ser	Pro	Glu	Asp	Ser
		435				440						445			
Ser	Trp	Thr	Asp	Phe	Phe	Asn	Pro	Ile	Ser	His	Pro	Met	Gly	Arg	Gly
450						455					460				
His	Gln	Ala	Gly	Arg	Arg	Met	Asp	Met	Asp	Ser	Ser	His	Ser	Thr	Thr
465					470					475					480
Leu	Gln	Pro	Thr	Ala	Asn	Pro	Asn	Thr	Gly	Leu	Val	Glu	Asp	Leu	Asp
				485					490					495	
Arg	Thr	Gly	Pro	Leu	Ser	Met	Thr	Thr	Gln	Gln	Ser	Asn	Ser	Gln	Ser
			500						505					510	
Phe	Ser	Thr	Ser	His	Glu	Gly	Leu	Glu	Glu	Asp	Lys	Asp	His	Pro	Thr
		515					520					525			
Thr	Ser	Thr	Leu	Thr	Ser	Ser	Asn	Arg	Asn	Asp	Val	Thr	Gly	Gly	Arg
		530				535					540				
Arg	Asp	Pro	Asn	His	Ser	Glu	Gly	Ser	Thr	Thr	Leu	Leu	Glu	Gly	Tyr
545					550					555					560
Thr	Ser	His	Tyr	Pro	His	Thr	Lys	Glu	Ser	Arg	Thr	Phe	Ile	Pro	Val
				565					570					575	
Thr	Ser	Ala	Lys	Thr	Gly	Ser	Phe	Gly	Val	Thr	Ala	Val	Thr	Val	Gly
			580					585					590		
Asp	Ser	Asn	Ser	Asn	Val	Asn	Arg	Ser	Leu	Ser	Gly	Asp	Gln	Asp	Thr
		595					600					605			
Phe	His	Pro	Ser	Gly	Gly	Ser	His	Thr	Thr	His	Gly	Ser	Glu	Ser	Asp
	610					615					620				
Gly	His	Ser	His	Gly	Ser	Gln	Glu	Gly	Gly	Ala	Asn	Thr	Thr	Ser	Gly
625					630					635					640
Pro	Ile	Arg	Thr	Pro	Gln	Ile	Pro	Glu	Trp	Leu	Ile	Ile	Leu	Ala	Ser
				645					650						655

Leu Leu Ala Leu Ala Leu Ile Leu Ala Val Cys Ile Ala Val Asn Ser
 660 665 670
 Arg Arg Arg Cys Gly Gln Lys Lys Lys Leu Val Ile Asn Ser Gly Asn
 675 680 685
 Gly Ala Val Glu Asp Arg Lys Pro Ser Gly Leu Asn Gly Glu Ala Ser
 690 695 700
 Lys Ser Gln Glu Met Val His Leu Val Asn Lys Glu Ser Ser Glu Thr
 705 710 715 720
 Pro Asp Gln Phe Met Thr Ala Asp Glu Thr Arg Asn Leu Gln Asn Val
 725 730 735
 Asp Met Lys Ile Gly Val
 740

<210> 2
 <211> 493
 <212> PRT
 <213> Homo sapiens

<400> 2
 Met Asp Lys Phe Trp Trp His Ala Ala Trp Gly Leu Cys Leu Val Pro
 1 5 10 15
 Leu Ser Leu Ala Gln Ile Asp Leu Asn Ile Thr Cys Arg Phe Ala Gly
 20 25 30
 Val Phe His Val Glu Lys Asn Gly Arg Tyr Ser Ile Ser Arg Thr Glu
 35 40 45
 Ala Ala Asp Leu Cys Lys Ala Phe Asn Ser Thr Leu Pro Thr Met Ala
 50 55 60
 Gln Met Glu Lys Ala Leu Ser Ile Gly Phe Glu Thr Cys Arg Tyr Gly
 65 70 75 80
 Phe Ile Glu Gly His Val Val Ile Pro Arg Ile His Pro Asn Ser Ile
 85 90 95
 Cys Ala Ala Asn Asn Thr Gly Val Tyr Ile Leu Thr Ser Asn Thr Ser
 100 105 110
 Gln Tyr Asp Thr Tyr Cys Phe Asn Ala Ser Ala Pro Pro Glu Glu Asp
 115 120 125
 Cys Thr Ser Val Thr Asp Leu Pro Asn Ala Phe Asp Gly Pro Ile Thr
 130 135 140
 Ile Thr Ile Val Asn Arg Asp Gly Thr Arg Tyr Val Gln Lys Gly Glu
 145 150 155 160
 Tyr Arg Thr Asn Pro Glu Asp Ile Tyr Pro Ser Asn Pro Thr Asp Asp
 165 170 175
 Asp Val Ser Ser Gly Ser Ser Ser Glu Arg Ser Ser Thr Ser Gly Gly
 180 185 190
 Tyr Ile Phe Tyr Thr Phe Ser Thr Val His Pro Ile Pro Asp Glu Asp
 195 200 205
 Ser Pro Trp Ile Thr Asp Ser Thr Asp Arg Ile Pro Ala Thr Asn Met
 210 215 220
 Asp Ser Ser His Ser Thr Thr Leu Gln Pro Thr Ala Asn Pro Asn Thr
 225 230 235 240
 Gly Leu Val Glu Asp Leu Asp Arg Thr Gly Pro Leu Ser Met Thr Thr
 245 250 255
 Gln Gln Ser Asn Ser Gln Ser Phe Ser Thr Ser His Glu Gly Leu Glu
 260 265 270
 Glu Asp Lys Asp His Pro Thr Thr Ser Thr Leu Thr Ser Ser Asn Arg
 275 280 285
 Asn Asp Val Thr Gly Gly Arg Arg Asp Pro Asn His Ser Glu Gly Ser
 290 295 300

Thr Thr Leu Leu Glu Gly Tyr Thr Ser His Tyr Pro His Thr Lys Glu
 305 310 315 320
 Ser Arg Thr Phe Ile Pro Val Thr Ser Ala Lys Thr Gly Ser Phe Gly
 325 330 335
 Val Thr Ala Val Thr Val Gly Asp Ser Asn Ser Asn Val Asn Arg Ser
 340 345 350
 Leu Ser Gly Asp Gln Asp Thr Phe His Pro Ser Gly Gly Ser His Thr
 355 360 365
 Thr His Gly Ser Glu Ser Asp Gly His Ser His Gly Ser Gln Glu Gly
 370 375 380
 Gly Ala Asn Thr Thr Ser Gly Pro Ile Arg Thr Pro Gln Ile Pro Glu
 385 390 395 400
 Trp Leu Ile Ile Leu Ala Ser Leu Leu Ala Leu Ala Leu Ile Leu Ala
 405 410 415
 Val Cys Ile Ala Val Asn Ser Arg Arg Arg Cys Gly Gln Lys Lys Lys
 420 425 430
 Leu Val Ile Asn Ser Gly Asn Gly Ala Val Glu Asp Arg Lys Pro Ser
 435 440 445
 Gly Leu Asn Gly Glu Ala Ser Lys Ser Gln Glu Met Val His Leu Val
 450 455 460
 Asn Lys Glu Ser Ser Glu Thr Pro Asp Gln Phe Met Thr Ala Asp Glu
 465 470 475 480
 Thr Arg Asn Leu Gln Asn Val Asp Met Lys Ile Gly Val
 485 490

<210> 3
 <211> 361
 <212> PRT
 <213> Homo sapiens

<400> 3
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 1 5 10 15
 Leu Ser Leu Ala Gln Ile Asp Leu Asn Ile Thr Cys Arg Phe Ala Gly
 20 25 30
 Val Phe His Val Glu Lys Asn Gly Arg Tyr Ser Ile Ser Arg Thr Glu
 35 40 45
 Ala Ala Asp Leu Cys Lys Ala Phe Asn Ser Thr Leu Pro Thr Met Ala
 50 55 60
 Gln Met Glu Lys Ala Leu Ser Ile Gly Phe Glu Thr Cys Arg Tyr Gly
 65 70 75 80
 Phe Ile Glu Gly His Val Val Ile Pro Arg Ile His Pro Asn Ser Ile
 85 90 95
 Cys Ala Ala Asn Asn Thr Gly Val Tyr Ile Leu Thr Ser Asn Thr Ser
 100 105 110
 Gln Tyr Asp Thr Tyr Cys Phe Asn Ala Ser Ala Pro Pro Glu Glu Asp
 115 120 125
 Cys Thr Ser Val Thr Asp Leu Pro Asn Ala Phe Asp Gly Pro Ile Thr
 130 135 140
 Ile Thr Ile Val Asn Arg Asp Gly Thr Arg Tyr Val Gln Lys Gly Glu
 145 150 155 160
 Tyr Arg Thr Asn Pro Glu Asp Ile Tyr Pro Ser Asn Pro Thr Asp Asp
 165 170 175
 Asp Val Ser Ser Gly Ser Ser Ser Glu Arg Ser Ser Thr Ser Gly Gly
 180 185 190
 Tyr Ile Phe Tyr Thr Phe Ser Thr Val His Pro Ile Pro Asp Glu Asp
 195 200 205

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Ser Pro Trp Ile Thr Asp Ser Thr Asp Arg Ile Pro Ala Thr Arg Asp
 210                215                220
Gln Asp Thr Phe His Pro Ser Gly Gly Ser His Thr Thr His Gly Ser
225                230                235                240
Glu Ser Asp Gly His Ser His Gly Ser Gln Glu Gly Gly Ala Asn Thr
                245                250                255
Thr Ser Gly Pro Ile Arg Thr Pro Gln Ile Pro Glu Trp Leu Ile Ile
                260                265                270
Leu Ala Ser Leu Leu Ala Leu Ala Leu Ile Leu Ala Val Cys Ile Ala
                275                280                285
Val Asn Ser Arg Arg Arg Cys Gly Gln Lys Lys Lys Leu Val Ile Asn
                290                295                300
Ser Gly Asn Gly Ala Val Glu Asp Arg Lys Pro Ile Gly Leu Asn Gly
305                310                315                320
Glu Ala Ser Lys Ser Gln Glu Met Val His Leu Val Asn Lys Glu Ser
                325                330                335
Ser Glu Thr Pro Asp Gln Phe Met Thr Ala Asp Glu Thr Arg Asn Leu
                340                345                350
Gln Asn Val Asp Met Lys Ile Gly Val
                355                360

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<210> 4

<211> 336

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 4

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gacatccaga tgacccagtc tccactctcc ctggccgtca cccttggaca gccggcctcc      60
atctcctgca ggtctagtga aagcctcgtg tacagtgatg gaaacaccta cttgggttgg      120
tttcagcaga ggccaggcca atctccacgg cgcctacttt ataagggttc taaccgggac      180
tctggggtcc cagacagatt cagcggcagt gggtcaggca ctgatttcac actgcacatc      240
agcagggtgg aggctgaaga tgttgggggt tattactgca tgcattctat acgctggccg      300
tggaacgttc gccaaaggac cacggtggaa atcaag                                     336

```

<210> 5

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 5

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Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Ala Val Thr Leu Gly
 1                5                10                15
Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Glu Ser Leu Val Tyr Ser
                20                25                30
Asp Gly Asn Thr Tyr Leu Gly Trp Phe Gln Gln Arg Pro Gly Gln Ser
                35                40                45
Pro Arg Arg Leu Leu Tyr Lys Val Ser Asn Arg Asp Ser Gly Val Pro
                50                55                60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu His Ile
65                70                75                80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met His Ser

```

			85					90					95			
Ile	Arg	Trp	Pro	Trp	Thr	Phe	Gly	Gln	Gly	Thr	Thr	Val	Glu	Ile	Lys	
			100					105					110			

<210> 6
 <211> 357
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<400> 6
 gaagttcaat tgtagagtc tggtagcgt cttgttcagc ctggtggttc tttacgtctt 60
 tcttgcgctg cttccggatt cactttctct ccttacacta tggcttgggt tcgccaagct 120
 cctggtaaag gtttgagtg ggtttcttct atctatcctt ctggtggcac tactccttat 180
 gctgactcgc ttaaagggtcg cttcactatc tctagagaca actctaagaa tactctctac 240
 ttgcagatga acagcttaag ggctgaggac actgcagtct actattgtgc gagacatttt 300
 actgtgtatg atggttttga tttgtggggc cgaggggacaa tggtcaccgt ctcaagc 357

<210> 7
 <211> 119
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 7
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Pro Tyr
 20 25 30
 Thr Met Ala Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Tyr Pro Ser Gly Gly Thr Thr Pro Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg His Phe Thr Val Tyr Asp Gly Phe Asp Leu Trp Gly Arg Gly
 100 105 110
 Thr Met Val Thr Val Ser Ser
 115

<210> 8
 <211> 324
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<400> 8
 gacatccaga tgaccagtc tccaggcacc ctgtctttgt ctccagggga aagagccacc 60
 ctctcctgca gggccagtca gagggttagc agcagctact tagcctggta ccagcagaaa 120

```
cctggccagg ctcccaggct cctcatctat ggtgcatcca gcagggccac tggcatccca 180
gacagggttca gtggcagtggtgtctgggaca gacttcactc tcaccatcag cagactggag 240
cctgaagatt ttgcagtgtat tttactgtcag cagtatggta gctcacctcg aacgttcggc 300
caagggaacca aggtggaaat caaa 324
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<210> 9

<211> 108

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 9

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Asp Ile Gln Met Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
1           5           10           15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Ser
20           25           30
Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu
35           40           45
Ile Tyr Gly Ala Ser Ser Arg Ala Thr Gly Ile Pro Asp Arg Phe Ser
50           55           60
Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Arg Leu Glu
65           70           75           80
Pro Glu Asp Phe Ala Val Tyr Tyr Cys Gln Gln Tyr Gly Ser Ser Pro
85           90           95
Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100          105
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<210> 10

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 10

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gaagttcaat tgtagagtc tggtggcgggt cttgttcagc ctggtgggttc tttacgtctt 60
tcttgcgctg cttccggatt cactttctct cattacggta tgtcttggtt tcgccaagct 120
cctggtaaag gtttgagtg ggtttcttgg atcggtcctt ctggtggcgc tactctttat 180
gctgactcgg ttaaaggctg cttcactatc tctagagaca actctaagaa tactctctac 240
ttgcagatga acagcttaag ggctgaggac actgcagtct actattgtgc gaaaggaagg 300
tggaataggg gtggcgccct tgacaactgg ggccagggaa ccctgggtcac cgtctcaagc 360
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<210> 11

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 11

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Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1           5           10           15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser His Tyr
```

	20		25		30
Gly Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val					
	35		40		45
Ser Trp Ile Gly Pro Ser Gly Gly Ala Thr Leu Tyr Ala Asp Ser Val					
	50		55		60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr					
65		70		75	80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys					
	85		90		95
Ala Lys Gly Arg Trp Asn Arg Gly Gly Ala Phe Asp Asn Trp Gly Gln					
	100		105		110
Gly Thr Leu Val Thr Val Ser Ser					
	115		120		

<210> 12

<211> 333

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 12

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atctcctgca ggtctagtc gagcctcctg catagtaatg gatacaacta tttggattgg	120
tacctgcaga agccagggca gtctccacag ctctgatct atttgggttc taatcgggcc	180
tccgggggtcc ctgacagggt cagtggcagt ggatcaggca cagattttac actgaaaac	240
agcagagtgg aggctgagga tggtgggggt tattactgca tgcaagctct gcaaccgtac	300
acttttggcc aggggaccaa gctggagatc aaa	333

<210> 13

<211> 111

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 13

Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly			
1	5	10	15
Gly Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser			
	20	25	30
Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser			
	35	40	45
Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro			
	50	55	60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile			
65	70	75	80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala			
	85	90	95
Leu Gln Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys			
	100	105	110

<210> 14

<211> 369

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 14

gaagttcaat	tgtagagtc	tggtggcgg	cttggtcagc	ctgggtgggtc	tttacgtctt	60
tcttgcgctg	cttcgggatt	cactttctct	ccttacctta	tgtcttgggt	tcgccaagct	120
cctggtaaag	gtttggagtg	ggtttcttct	atctattctt	ctgggtggcct	tactgattat	180
gctgactccg	ttaaagggtcg	cttcactatc	tctagagaca	actctaagaa	tactctctac	240
ttgcagatga	acagcttaag	ggctgaggac	actgcagtct	accattgtgc	gagagacggt	300
tactatgata	gtagtggtta	cgagggtttt	gactactggg	gccaggaac	cctgggtcacc	360
gtctcaagc						369

<210> 15

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 15

Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly	
1				5					10					15		
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Pro	Tyr	
			20					25					30			
Leu	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val	
		35				40						45				
Ser	Ser	Ile	Tyr	Ser	Ser	Gly	Gly	Leu	Thr	Asp	Tyr	Ala	Asp	Ser	Val	
	50					55					60					
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Leu	Tyr	
65					70				75					80		
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	His	Tyr	Cys	
			85					90						95		
Ala	Arg	Asp	Gly	Tyr	Tyr	Asp	Ser	Ser	Gly	Tyr	Glu	Gly	Phe	Asp	Tyr	
		100						105					110			
Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser						
		115					120									

<210> 16

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 16

Arg	Ser	Ser	Glu	Ser	Leu	Val	Tyr	Ser	Asp	Gly	Asn	Thr	Tyr	Leu	Gly	
1				5					10					15		

<210> 17

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 17

Lys Val Ser Asn Arg Asp Ser
1 5

<210> 18

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 18

Met His Ser Ile Arg Trp Pro Trp Thr
1 5

<210> 19

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 19

Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Ala Val Thr Leu Gly
1 5 10 15
Gln Pro Ala Ser Ile Ser Cys
20

<210> 20

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 20

Trp Phe Gln Gln Arg Pro Gly Gln Ser Pro Arg Arg Leu Leu Tyr
1 5 10 15

<210> 21

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 21

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15
Leu His Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys

20

25

30

<210> 22
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 22
 Phe Gly Gln Gly Thr Thr Val Glu Ile Lys
 1 5 10

<210> 23
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 23
 Pro Tyr Thr Met Ala
 1 5

<210> 24
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 24
 Ser Ile Tyr Pro Ser Gly Gly Thr Thr Pro Tyr Ala Asp Ser Val Lys
 1 5 10 15
 Gly

<210> 25
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 25
 His Phe Thr Val Tyr Asp Gly Phe Asp
 1 5

<210> 26
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 26

Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5				10						15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser		
			20					25					30		

<210> 27

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 27

Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val	Ser
1				5				10					

<210> 28

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 28

Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Leu	Tyr	Leu	Gln
1				5				10						15	
Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	Ala	Arg
			20					25					30		

<210> 29

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 29

Leu	Trp	Gly	Arg	Gly	Thr	Met	Val	Thr	Val	Ser	Ser
1				5				10			

<210> 30

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 30

Arg Ala Ser Gln Ser Val Ser Ser Ser Tyr Leu Ala

1 5 10
 <210> 31
 <211> 7
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Synthetically generated peptide

 <400> 31
 Gly Ala Ser Ser Arg Ala Thr
 1 5

 <210> 32
 <211> 9
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Synthetically generated peptide

 <400> 32
 Gln Gln Tyr Gly Ser Ser Pro Arg Thr
 1 5

 <210> 33
 <211> 23
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Synthetically generated peptide

 <400> 33
 Asp Ile Gln Met Thr Gln Ser Pro Gly Thr Leu Ser Leu Ser Pro Gly
 1 5 10 15
 Glu Arg Ala Thr Leu Ser Cys
 20

 <210> 34
 <211> 15
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Synthetically generated peptide

 <400> 34
 Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr
 1 5 10 15

 <210> 35
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 35

Gly	Ile	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr
1				5				10					15		
Leu	Thr	Ile	Ser	Arg	Leu	Glu	Pro	Glu	Asp	Phe	Ala	Val	Tyr	Tyr	Cys
			20				25						30		

<210> 36

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 36

Phe	Gly	Gln	Gly	Thr	Lys	Val	Glu	Ile	Lys
1				5				10	

<210> 37

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 37

His	Tyr	Gly	Met	Ser
1			5	

<210> 38

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 38

Trp	Ile	Gly	Pro	Ser	Gly	Gly	Ala	Thr	Leu	Tyr	Ala	Asp	Ser	Val	Lys
1				5				10					15		
Gly															

<210> 39

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 39

Gly Arg Trp Asn Arg Gly Gly Ala Phe Asp

1 5 10

<210> 40
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 40
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
 20 25 30

<210> 41
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 41
 Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
 1 5 10

<210> 42
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 42
 Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
 1 5 10 15
 Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala Lys
 20 25 30

<210> 43
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 43
 Asn Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
 1 5 10

<210> 44
 <211> 16
 <212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 44

Arg Ser Ser Gln Ser Leu Leu His Ser Asn Gly Tyr Asn Tyr Leu Asp
 1 5 10 15

<210> 45

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 45

Leu Gly Ser Asn Arg Ala Ser
 1 5

<210> 46

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 46

Met Gln Ala Leu Gln Pro Tyr Thr
 1 5

<210> 47

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 47

Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
 1 5 10 15
 Gly Pro Ala Ser Ile Ser Cys
 20

<210> 48

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 48

Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr

1 5 10 15
 <210> 49
 <211> 32
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Synthetically generated peptide

 <400> 49
 Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 1 5 10 15
 Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys
 20 25 30

 <210> 50
 <211> 10
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Synthetically generated peptide

 <400> 50
 Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 1 5 10

 <210> 51
 <211> 5
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Synthetically generated peptide

 <400> 51
 Pro Tyr Leu Met Ser
 1 5

 <210> 52
 <211> 17
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Synthetically generated peptide

 <400> 52
 Ser Ile Tyr Ser Ser Gly Gly Leu Thr Asp Tyr Ala Asp Ser Val Lys
 1 5 10 15
 Gly

 <210> 53
 <211> 13
 <212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 53

Asp Gly Tyr Tyr Asp Ser Ser Gly Tyr Glu Gly Phe Asp
1 5 10

<210> 54

<211> 30

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 54

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser
20 25 30

<210> 55

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 55

Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val Ser
1 5 10

<210> 56

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 56

Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu Gln
1 5 10 15
Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr His Cys Ala Arg
20 25 30

<210> 57

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 57

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser

1 5 10

<210> 58

<211> 336

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 58

gacatccaga	tgacccagtc	tccactctcc	ctgcccgtca	cccctggaga	gccggcctcc	60
atctcctgca	ggcttagtca	gagcctcctg	catagtaatg	gatacaacta	tttggattgg	120
tacctgcaga	agccagggca	gtctccacag	ctcctgatct	atttgggttc	taatcggggc	180
tccgggggtcc	ctgacagggt	cagtggcagt	ggatcaggca	cagattttac	actgaaaatc	240
agcagagtgg	aggctgagga	tgttgggggt	tattactgca	tgcaagctct	acaaactcct	300
cccactttcg	gcggaggggac	caaggtggag	atcaaa			336

<210> 59

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 59

Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly	
1				5					10					15		
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Leu	His	Ser	
			20					25					30			
Asn	Gly	Tyr	Asn	Tyr	Leu	Asp	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser	
			35				40					45				
Pro	Gln	Leu	Leu	Ile	Tyr	Leu	Gly	Ser	Asn	Arg	Ala	Ser	Gly	Val	Pro	
			50			55					60					
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile	
65					70				75					80		
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	Ala	
			85				90						95			
Leu	Gln	Thr	Pro	Pro	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Val	Glu	Ile	Lys	
			100				105						110			

<210> 60

<211> 348

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 60

gaagttcaat	tgttagagtc	tggtggcgggt	cttggttcagc	ctgggtgggttc	tttacgtctt	60
tcttgcgctg	cttcocggatt	cactttctct	gagtaocggta	tgggttggggt	tcgccaagct	120
cctggtaaag	gtttggagtg	ggtttcttct	atcgtttctt	ctgggtggctt	tactttttat	180
gctgactccg	ttaaagggtcg	cttcaactatc	tctagagaca	actctaagaa	tactctctac	240

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ttgcagatga acagcttaag ggctgaggac actgcagtct actattgtgc gagaggcact 300
cgtacagtaa ccaactgggg ccaggggagcc ctggtcaccg tctcaagc 348

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<210> 61
<211> 116
<212> PRT
<213> Artificial Sequence

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```

<220>
<223> Synthetically generated peptide

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<400> 61
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1           5           10           15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Glu Tyr
 20           25           30
Gly Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35           40           45
Ser Ser Ile Val Ser Ser Gly Gly Phe Thr Phe Tyr Ala Asp Ser Val
 50           55           60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65           70           75           80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85           90           95
Ala Arg Gly Thr Arg Thr Val Thr Asn Trp Gly Gln Gly Ala Leu Val
100           105           110
Thr Val Ser Ser
115

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```

<210> 62
<211> 336
<212> DNA
<213> Artificial Sequence

```

```

<220>
<223> Synthetically generated oligonucleotide

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<400> 62
gacatccaga tgaccagtc tccactctcc ctgcccgta cccctggaga gccggcctcc 60
atctcctgca ggtctagtca gagcctcctg catagtaatg gatacaacta tttggattgg 120
tacctgcaga agccagggca gtctccacag ctctgatct atttgggttc taatcgggcc 180
tccgggggtcc ctgacagggt cagtggcagt ggatcaggca cagattttac actgaaaatc 240
agcagagtgg aggctgagga tgttgggggt tattactgca tgcaagctct acaaaccct 300
tggaactttg gccaggggac caagctggag atcaaa 336

```

```

<210> 63
<211> 112
<212> PRT
<213> Artificial Sequence

```

```

<220>
<223> Synthetically generated peptide

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```

<400> 63
Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
 1           5           10           15
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser

```

	20		25		30
Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser					
35			40		45
Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro					
50			55		60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile					
65			70		75
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala					
	85		90		95
Leu Gln Thr Pro Trp Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys					
	100		105		110

<210> 64
 <211> 354
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<400> 64	
gaagttcaat tgtagagtc tggtagcgt cttgttcagc ctggtggttc tttacgtctt	60
tcttgcgctg cttccggatt cactttctct ctttaccgta tgcgttggtg tcgccaagct	120
cctggtaaag gtttgagtg ggtttcttct atctctcctt ctggtggcat tactgagtat	180
gctgactccg ttaaaggctg cttcactatc tctagagaca actctaagaa tactctctac	240
ttgcagatga acagcttaag ggctgaggac actgcagtct actattgtgc gctagacgtg	300
ggggtgggag ctgctgacta ctggggccag ggaaccctgg tcaccgtctc aagc	354

<210> 65
 <211> 118
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 65	
Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly	
1	5
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Leu Tyr	10
	15
20	25
Arg Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val	30
35	40
Ser Ser Ile Ser Pro Ser Gly Gly Ile Thr Glu Tyr Ala Asp Ser Val	45
50	55
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr	60
65	70
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys	75
	80
85	90
Ala Leu Asp Val Gly Val Gly Ala Ala Asp Tyr Trp Gly Gln Gly Thr	95
	100
105	110
Leu Val Thr Val Ser Ser	
115	

<210> 66
 <211> 336
 <212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 66

gacatccaga	tgacccagtc	tccactctcc	ctgcccgtca	cccctggaga	gccggcctcc	60
atctcctgca	ggtctagtca	gagcctcctg	catagtaatg	gatacaacta	tttggattgg	120
tacctgcaga	agccagggca	gtctccacag	ctcctgatct	atttgggttc	taatcgggcc	180
tccgggggtcc	ctgacagggt	cagtggcagt	ggatcaggca	cagattttac	actgaaaatc	240
agcggagtgg	aggctgagga	tgttgggggt	tattactgca	tgcaagctct	acaaactggg	300
tacacttttg	gccaggggac	caagctggag	atcaaa			336

<210> 67

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 67

Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly	
1				5				10						15		
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Leu	His	Ser	
			20					25					30			
Asn	Gly	Tyr	Asn	Tyr	Leu	Asp	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser	
			35				40					45				
Pro	Gln	Leu	Leu	Ile	Tyr	Leu	Gly	Ser	Asn	Arg	Ala	Ser	Gly	Val	Pro	
			50				55				60					
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile	
65					70					75					80	
Ser	Gly	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	Ala	
				85					90					95		
Leu	Gln	Thr	Gly	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys	
			100					105						110		

<210> 68

<211> 354

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 68

gaagttcaat	tgttagagtc	tggtggcggt	cttgttcagc	ctggtgggtc	tttacgtctt	60
tcttgcgctg	cttcgggatt	cactttctct	aagtacacta	tgtggtgggt	tcgccaagct	120
cctggtaaag	gtttggagtg	ggtttcttct	atctggtctt	ctggtggctt	tactcgttat	180
gctgactccg	ttaaaggctg	cttcactatc	tctagagaca	actctaagaa	tactctctac	240
ttgcagatga	acagcttaag	ggctgaggac	actgcagtct	actattgtgc	gggacgtagt	300
gggagctacc	ccgctgatat	ctggggccaa	gggacaatgg	tcaccgtctc	aagc	354

<210> 69

<211> 118

<212> PRT

<213> Artificial Sequence

$\langle 220 \rangle$

<223> Synthetically generated peptide

<400> 69

[illegible]

<210> 70

<211> 336

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> Synthetically generated oligonucleotide

<400> 70

gacatccaga	tgaccagctc	tccactctcc	ctgcccgctca	cccctggaga	gccggcctcc	60
atctcctgca	ggtctagtca	gagcctcctg	catagtaatg	gatacaacta	tttggaattg	120
tacctgcaga	agccagggca	gtctccacag	ctcctgatct	atttgggttc	taatcgggcc	180
tccgggggtcc	ccgacaggtt	cagtggcagt	ggatcaggca	cagattttac	actgaaaatc	240
agcagagtgg	aggctgagga	tgttggggtt	tattactgca	tgcaagctct	acaaactcct	300
aggactttcg	gcggaggggac	caaggtggag	atcaaa			336

<210> 71

<211> 112

<212> PRT

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> Synthetically generated peptide

<400> 71

Asp 1	Ile	Gln	Met	Thr 5	Gln	Ser	Pro	Leu	Ser 10	Leu	Pro	Val	Thr	Pro 15	Gly
Glu	Pro	Ala	Ser 20	Ile	Ser	Cys	Arg	Ser 25	Ser	Gln	Ser	Leu	Leu 30	His	Ser
Asn	Gly	Tyr 35	Asn	Tyr	Leu	Asp	Trp 40	Tyr	Leu	Gln	Lys	Pro 45	Gly	Gln	Ser
Pro	Gln 50	Leu	Leu	Ile	Tyr	Leu 55	Gly	Ser	Asn	Arg	Ala 60	Ser	Gly	Val	Pro
Asp 65	Arg	Phe	Ser	Gly 70	Ser	Gly	Ser	Gly	Thr	Asp 75	Phe	Thr	Leu	Lys	Ile 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala
 85 90 95
 Leu Gln Thr Pro Arg Thr Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
 100 105 110

<210> 72
 <211> 342
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<400> 72
 gaagttcaat tgtagagtc tggtagcggt cttgttcagc ctggtggttc tttacgtctt 60
 tcttgcgctg cttccggatt cactttctct cattactcta tgatgtgggt tcgccaagct 120
 cctggtaaag gtttgagtg ggtttcttct atctttcctg gtggctggac tctttatgct 180
 gactccgta aaggtcgctt cactatctct agagacaact ctaagaatac tctctacttg 240
 cagatgaaca gcttaagggc tgaggacact gcagtctact attgtgcgag agatcgggca 300
 gctgcctact ggggccaggg aaccctggtc accgtctcaa gc 342

<210> 73
 <211> 114
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 73
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser His Tyr
 20 25 30
 Ser Met Met Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Phe Pro Gly Gly Trp Thr Leu Tyr Ala Asp Ser Val Lys
 50 55 60
 Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr Leu
 65 70 75 80
 Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys Ala
 85 90 95
 Arg Asp Arg Ala Ala Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
 100 105 110
 Ser Ser

<210> 74
 <211> 336
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<400> 74
 gacatccaga tgaccagtc tcaactctcc ctgccgtca cccctggaga gccggcctcc 60


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atctcctgca ggtctagtca gagcctcctg catagtaatg gatacaacta tttggattgg 120
tacctgcaga agccagggca gtctccacag ctctgatct atttgggttc taatcgggcc 180
tccgggggtcc ctgacagggt cagtggcagt ggatcaggca cagattttac actgaaaatc 240
agcagagtgg aggctgagga tgttgggggt tattactgca tgcaagctct acaaactccc 300
tggacgttcg gccaaaggac caaggtggaa atcaaa 336

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<210> 75

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 75

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Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
1           5           10           15
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
20          25          30
Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35          40          45
Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro
50          55          60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65          70          75          80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala
85          90          95
Leu Gln Thr Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100         105         110

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<210> 76

<211> 351

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 76

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gaagttcaat tgtagagtc tggtagcgt cttgttcagc ctggtggttc tttacgtctt 60
tattgcgctg cttccggatt cactttctct aattacacta tgaattgggt tcgccaagct 120
cctggtaaag gtttgagtg ggtttcttct atcgtttctt ctggtggctt tactaagtat 180
gctgactccg ttaaaggctg cttcactatc tctagagaca actctaagaa tactctctac 240
ttgcagatga acagcttaag ggctgaggac actgcagtct actattgtgc gagaggctgg 300
tctagtcagc ccgccatctg gggccaggga agcctgggtc ccgtctcaag c 351

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<210> 77

<211> 117

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 77

```

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1           5           10           15

```

```

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
      20      25      30
Thr Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
      35      40      45
Ser Ser Ile Val Ser Ser Gly Gly Phe Thr Lys Tyr Ala Asp Ser Val
      50      55      60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
      65      70      75      80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
      85      90      95
Ala Arg Gly Trp Ser Ser Gln Pro Ala Ile Trp Gly Gln Gly Ser Leu
      100      105      110
Val Thr Val Ser Ser
      115

```

<210> 78
 <211> 321
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

```

<400> 78
gacatccaga tgacccagtc tccatcctcc ctgtctgcat ctgtaggaga cagagtcacc      60
atcacttgcc gggcaagtca gagcattggc agctatttaa attggtatca gcagaaacca      120
gggaaagccc ctaagctcct gatctatgct gcatccagtt tgcaaagtgg ggtcccatca      180
aggttcagtg gcagtggatc tgggacagat ttcaactctca ccatcagcag tctgcaacct      240
gaagattttg caacttacta ctgtcaacag agttactcta cccctcggac tttcggccct      300
gggaccaaag tggatatcaa a                                     321

```

<210> 79
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

```

<400> 79
Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Val Gly
  1      5      10      15
Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Gly Ser Tyr
      20      25      30
Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
      35      40      45
Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
      50      55      60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
      65      70      75      80
Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ser Tyr Ser Thr Pro Arg
      85      90      95
Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
      100      105

```

<210> 80
 <211> 366

<212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<400> 80
 gaagttcaat tgtagagtc tgggtggcggc cttgttcagc ctgggtgggtc tttacgtctt 60
 tcttgcgctg cttccggatt cactttctct tggtagctta tgtcttgggt tcgccaagct 120
 cctggtaaag gtttggagtg ggtttcttct atcggtcctt ctgggtggcca gactcgttat 180
 gctgactccg ttaaaggctg cttcactatc tctagagaca actctaagaa tactctctac 240
 ttgcagatga acagcttaag ggctgaggac actgcagtct actattgtgc gagagattac 300
 tatgatagta gtggttattc gtactttgac tactggggcc agggaaccca ggtcaccgtc 360
 tcaagc 366

<210> 81
 <211> 122
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 81
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Trp Tyr
 20 25 30
 Ser Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Gly Pro Ser Gly Gly Gln Thr Arg Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Asp Tyr Tyr Asp Ser Ser Gly Tyr Ser Tyr Phe Asp Tyr Trp
 100 105 110
 Gly Gln Gly Thr Gln Val Thr Val Ser Ser
 115 120

<210> 82
 <211> 321
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<400> 82
 gacatccaga tgaccacgtc tccactctcc ctgtctgcat ctgtgggaga cagagtcacc 60
 atcacttgtc gggcaagtca gagcattagc agccatttaa attggtatca gcggagacca 120
 gggaaagccc ctaagctcct gatttatgct gcatccagtt tgcaaagcgg ggtcccatca 180
 aggttcagtg gcagtggtac tgggacagat ttcgctctca ccatcagcag tctacaacct 240
 gaagattttg cagcttactt ctgtcaccag agttccagta cgctccgcac tttcggccaa 300
 gggaccacgg tggaaatcaa a 321

<210> 83
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 83
 Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Ser Ala Ser Val Gly
 1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile Ser Ser His
 20 25 30
 Leu Asn Trp Tyr Gln Arg Arg Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Ala Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 Glu Asp Phe Ala Ala Tyr Phe Cys His Gln Ser Ser Ser Thr Pro Pro
 85 90 95
 Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys
 100 105

<210> 84
 <211> 360
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<400> 84
 gaagttcaat tgtagagtc tggtagcggt cttgttcagc ctggtgggtc tttacgtctt 60
 tcttgcgctg cttccggatt cactttctct ccttacggta tggattgggt tcgccaagct 120
 cctggtaaag gtttgagtg ggtttcttct atctctcctt ctggtggcac tactctttat 180
 gctgactccg ttaaaggctg cttcactatc tctagagaca actctaagaa tactctctac 240
 ttgcagatga acagcttaag ggctgaggac actgcagtct actattgtgc gagacaaaaa 300
 aggtcctcgt taggtgcttt tgatatctgg ggccaaggga caatgggtcac cgtctcaagc 360

<210> 85
 <211> 120
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 85
 Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Pro Tyr
 20 25 30
 Gly Met Asp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Ser Pro Ser Gly Gly Thr Thr Leu Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Gln Lys Arg Ser Ser Leu Gly Ala Phe Asp Ile Trp Gly Gln
 100 105 110
 Gly Thr Met Val Thr Val Ser Ser
 115 120

<210> 86
 <211> 319
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<400> 86
 gactcagcct gcctccgtgt ctgggtctcc tggacagtcg atcaccatct cctgcactgg 60
 aaccagcagt gacgttggtg gttatagcta tgtctcctgg taccaacagc acccaggcaa 120
 agccccaaa ctcattgatt atgaggtcag taatcgcccc tctgggggtt ctaatcgctt 180
 ctctggctcc aagtctggca acacggcctc cctgaccatc tctgggctcc aggctgaaga 240
 cgaggctgat tattactgca actcatatac aagcagcagc actaagatgt tcggcggagg 300
 gaccaggctg accgtccta 319

<210> 87
 <211> 110
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 87
 Gln Ser Val Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Pro Gly Gln
 1 5 10 15
 Ser Ile Thr Ile Ser Cys Thr Gly Thr Ser Ser Asp Val Gly Gly Tyr
 20 25 30
 Ser Tyr Val Ser Trp Tyr Gln Gln His Pro Gly Lys Ala Pro Lys Leu
 35 40 45
 Met Ile Tyr Glu Val Ser Asn Arg Pro Ser Gly Val Ser Asn Arg Phe
 50 55 60
 Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
 65 70 75 80
 Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Tyr Thr Ser Ser
 85 90 95
 Ser Thr Lys Met Phe Gly Gly Gly Thr Arg Leu Thr Val Leu
 100 105 110

<210> 88
 <211> 348
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<400> 88
gaagttcaat tgtagagtc tgggtggcggc ctgtgtcagc ctgggtgggtc tttacgtctt 60
tcttgcgctg cttccggatt cactttctct aagtactcta tggagtgggt tgcgcaagct 120
cctggtaaag gtttgagtg ggtttctcgt atctatcctt ctgggtggccc tactctttat 180
gctgactccg ttaaaggctg cttcactatc tctagagaca actctaagaa tactctctac 240
ttgcagatga acagcttaag ggctgaggac actgcagtct actattgtgc gagagactct 300
tacggcatgg acgtctgggg ccaagggacc acggtcaccg tctcaagc 348

<210> 89

<211> 116

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 89

Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly		
1				5					10					15			
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Lys	Tyr		
			20					25					30				
Ser	Met	Glu	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val		
		35					40					45					
Ser	Arg	Ile	Tyr	Pro	Ser	Gly	Gly	Pro	Thr	Leu	Tyr	Ala	Asp	Ser	Val		
	50					55				60							
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Leu	Tyr		
65					70				75					80			
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys		
			85					90					95				
Ala	Arg	Asp	Ser	Tyr	Gly	Met	Asp	Val	Trp	Gly	Gln	Gly	Thr	Thr	Val		
		100						105					110				
Thr	Val	Ser	Ser														
		115															

<210> 90

<211> 333

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 90

gacatccaga	tgacccagtc	tccatcctcc	ctgcccgctca	cccctggaga	gccggcctcc		
						60	
atctcctgca	ggtctagtca	gagcctcctg	catagtaatg	gatacaacta	tttgattgg		
						120	
tacctgcaga	agccagggca	gtctccacag	ctctgatct	atttggttc	taatcgggcc		
						180	
tccgggggcc	ctgacaggtt	cagtggcagt	ggatcaggca	cagattttac	actgaaaatc		
						240	
aacagagtgg	aggctgagga	tgttgggggt	tattactgca	tgcaagctct	acaaactccg		
						300	
acgttcggcc	aagggacca	ggtggaaatc	aaa				333

<210> 91

<211> 111

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 91

```

Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Pro Val Thr Pro Gly
1           5           10           15
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
20           25           30
Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35           40           45
Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro
50           55           60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65           70           75           80
Asn Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala
85           90           95
Leu Gln Thr Pro Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100          105          110

```

<210> 92

<211> 348

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated oligonucleotide

<400> 92

```

gaagttcaat tgtagagtc tggtagcgt cttgttcagc ctggtggttc tttacgtctt      60
tcttgogctg cttccggatt cactttctct tattacggta tgggttggtt tcgccaagct    120
cctggtaaag gtttgagtg ggtttcttct atcggtcctt ctggtggcct tactaattat    180
gctgactccg ttaaaggctg cttcactatc tctagagaca actctaagaa tactctctac    240
ttgcagatga acagcttaag ggctgaggac actgcagtct actattgtgc gagaggcact    300
cgtacagtaa ccaactgggg ccagggaacc ctggtcaccg tctcaagc                 348

```

<210> 93

<211> 116

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 93

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Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
1           5           10           15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Tyr Tyr
20           25           30
Gly Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35           40           45
Ser Ser Ile Gly Pro Ser Gly Gly Leu Thr Asn Tyr Ala Asp Ser Val
50           55           60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65           70           75           80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85           90           95
Ala Arg Gly Thr Arg Thr Val Thr Asn Trp Gly Gln Gly Thr Leu Val
100          105          110
Thr Val Ser Ser

```

115

<210> 94
 <211> 333
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<400> 94
 gacatccaga tgaccagtc tccactotcc ctgcccgta cccctggagg gccggcctcc 60
 atctcctgca ggtctagtca gagcctcctg catagtaatg gatacaacta tttggattgg 120
 tacctgcaga agccagggca gtctccacag ctctgatct atttgggttc taatcgggcc 180
 tccggggctc ctgacagggt cagtggcagt ggatcaggca cagattttac actgaaaatc 240
 agcagagtgg aggctgagga tgttgggggt tattactgca tgcaagctct gcaaccgtac 300
 acttttggcc aggggaccaa gctggagatc aaa 333

<210> 95
 <211> 111
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 95
 Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
 1 5 10 15
 Gly Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
 20 25 30
 Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45
 Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro
 50 55 60
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala
 85 90 95
 Leu Gln Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 96
 <211> 369
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated oligonucleotide

<400> 96
 gaagttcaat tgtagagtc tggtagcggt ctgttcagc ctggtgggtc tttacgtctt 60
 tcttgcgctg cttccggatt cactttctct ccttacctta tgtcttggtt tcgccaagct 120
 cctggtaaag gtttgagtg ggtttcttct atctattctt ctggtggcct tactgattat 180
 gctgactccg ttaaaggctg cttcactatc tctagagaca actctaagaa tactctctac 240
 ttgcagatga acagcttaag ggctgaggac actgcagtct actattgtgc gagagacggt 300
 tactatgata gtagtggtta cgagggtttt gactactggg gccagggaac cctggtcacc 360

gtctcaagc

369

<210> 97

<211> 123

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 97

Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5				10						15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser	Pro	Tyr
			20					25					30		
Leu	Met	Ser	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val
		35				40						45			
Ser	Ser	Ile	Tyr	Ser	Ser	Gly	Gly	Leu	Thr	Asp	Tyr	Ala	Asp	Ser	Val
	50				55					60					
Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Leu	Tyr
65					70				75					80	
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
			85					90					95		
Ala	Arg	Asp	Gly	Tyr	Tyr	Asp	Ser	Ser	Gly	Tyr	Glu	Gly	Phe	Asp	Tyr
		100					105						110		
Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser					
		115				120									

<210> 98

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary motif

<221> VARIANT

<222> 1

<223> Xaa =Glu, Leu or Pro

<221> VARIANT

<222> 3

<223> Xaa = Gly, Arg, or Leu

<221> VARIANT

<222> 5

<223> Xaa = Gly, Arg, or Ser

<400> 98

Xaa Tyr Xaa Met Xaa

1

5

<210> 99

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary motif

<221> VARIANT

<222> 3, 2, 10

<223> Xaa = any amino acid

<221> VARIANT

<222> 8

<223> Xaa = hydrophobic

<400> 99

Ser Ile Xaa Xaa Ser Gly Gly Xaa Thr Xaa Tyr Ala Asp Ser Val Lys

1 5 10 15

Gly

<210> 100

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary sequence

<400> 100

Asp Val Gly Val Gly Ala Ala Asp

1 5

<210> 101

<211> 13

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary sequence

<400> 101

Asp Gly Tyr Tyr Asp Ser Ser Gly Tyr Glu Gly Phe Asp

1 5 10

<210> 102

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary sequence

<400> 102

Arg Ser Gly Ser Tyr Pro Ala Asp

1 5

<210> 103

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary sequence

<400> 103

Asp Arg Ala Ala Ala
1 5

<210> 104

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary sequence

<400> 104

Gly Trp Ser Ser Gln Pro Ala
1 5

<210> 105

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary sequence

<400> 105

Asp Tyr Tyr Asp Ser Ser Gly Tyr Ser Tyr Phe Asp
1 5 10

<210> 106

<211> 10

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary sequence

<400> 106

Gln Lys Arg Ser Ser Leu Gly Ala Phe Asp
1 5 10

<210> 107

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary sequence

<400> 107

Asp Ser Tyr Gly Met Asp
1 5

<210> 108

<211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Exemplary sequence

<400> 108
 Gly Thr Arg Thr Val Thr
 1 5

<210> 109
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Exemplary motif

<221> VARIANT
 <222> 7
 <223> Xaa = any amino acid (e.g., Gly or Ser)

<221> VARIANT
 <222> 9
 <223> Xaa = any amino acid (e.g., Tyr or His)

<400> 109
 Arg Ala Ser Gln Ser Ile Xaa Ser Xaa Leu Asn
 1 5 10

<210> 110
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Exemplary sequence

<400> 110
 Ala Ser Ser Leu Gln Ser
 1 5

<210> 111
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Exemplary motif

<221> VARIANT
 <222> 1
 <223> Xaa = any amino acid (e.g., hydrophilic, e.g., Gln
 or His)

<221> VARIANT

<222> 4
 <223> Xaa = any amino acid (e.g., Tyr or Ser)

<221> VARIANT
 <222> 8
 <223> Xaa = any amino acid (e.g., Arg or Pro)

<400> 111
 Xaa Gln Ser Xaa Ser Thr Pro Xaa Thr
 1 5

<210> 112
 <211> 14
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated sequence

<400> 112
 Thr Gly Thr Ser Ser Asp Val Gly Gly Tyr Ser Tyr Val Ser
 1 5 10

<210> 113
 <211> 6
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated sequence

<400> 113
 Glu Val Ser Asn Arg Pro
 1 5

<210> 114
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated sequence

<400> 114
 Asn Ser Tyr Thr Ser Ser Ser Thr Lys Met
 1 5 10

<210> 115
 <211> 5
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Exemplary sequence

<400> 115
 Leu Tyr Arg Met Arg

```

1              5

<210> 116
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Exemplary sequence

<400> 116
Pro Tyr Leu Met Ser
1              5

<210> 117
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Exemplary sequence

<400> 117
Glu Tyr Gly Met Gly
1              5

<210> 118
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Exemplary motif

<221> VARIANT
<222> 3
<223> Xaa = any amino acid (e.g., valine, serine, or
      tyrosine)

<221> VARIANT
<222> 4
<223> Xaa = any amino acid (e.g., proline or serine)

<221> VARIANT
<222> 8
<223> Xaa = hydrophobic (e.g., phenylalanine,
      isoleucine, leucine, valine, methionine,
      tryptophan, or tyrosine)

<221> VARIANT
<222> 10
<223> Xaa = any amino acid (e.g., phenylalanine,
      aspartic acid, glutamic acid, or acidic or
      aromatic)

<400> 118
Ser Ile Xaa Xaa Ser Gly Gly Xaa Thr Xaa Tyr Ala Asp Ser Val Lys

```

1	5	10	15
Gly			

<210> 119
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Exemplary sequence

<400> 119															
Ser	Ile	Ser	Pro	Ser	Gly	Gly	Ile	Thr	Glu	Tyr	Ala	Asp	Ser	Val	Lys
1				5					10					15	
Gly															

<210> 120
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Exemplary sequence

<400> 120															
Ser	Ile	Tyr	Ser	Ser	Gly	Gly	Leu	Thr	Asp	Tyr	Ala	Asp	Ser	Val	Lys
1				5					10					15	
Gly															

<210> 121
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Exemplary sequence

<400> 121															
Ser	Ile	Val	Ser	Ser	Gly	Gly	Phe	Thr	Phe	Tyr	Ala	Asp	Ser	Val	Lys
1				5					10					15	
Gly															

<210> 122
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 122															
Arg	Ser	Ser	Gln	Ser	Leu	Leu	His	Ser	Asn	Gly	Tyr	Asn	Tyr	Leu	Asp
1				5					10					15	

<210> 123
 <211> 7
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 123
 Leu Gly Ser Asn Arg Ala Ser
 1 5

<210> 124
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Exemplary motif

<221> VARIANT
 <222> 6
 <223> Xaa = any amino acid, (e.g., threonine) or absent

<221> VARIANT
 <222> 8
 <223> Xaa = any amino acid (e.g., hydrophobic, e.g.,
 tryptophan, proline or phenylalanine, tyrosine, or
 arginine) or absent

<400> 124
 Met Gln Ala Leu Gln Xaa Pro Xaa Thr
 1 5

<210> 125
 <211> 8
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Exemplary sequence

<400> 125
 Met Gln Ala Leu Gln Pro Tyr Thr
 1 5

<210> 126
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Exemplary sequence

<400> 126
 Met Gln Ala Leu Gln Thr Pro Trp Thr

<220>
<223> Exemplary sequence

<220>
<223> Exemplary motif

```
<221> VARIANT
<222> 12
<223> Xaa = Pro or Ser
```

```
<221> VARIANT
<222> 14
<223> Xaa = Thr or Ser
```

```
<221> VARIANT
<222> 15
<223> Xaa = Val or Pro
```

```
<221> VARIANT
<222> 17
<223> Xaa = Glu, Asp, or Gly
```

```
<221> VARIANT
<222> 18
<223> Xaa = Pro or Arg
```

```
<221> VARIANT
<222> 19
<223> Xaa = Ala or Val
```

```
<221> VARIANT
<222> 20, 22
```

<223> Xaa = Ser or Thr

<400> 128

```

Asp Ile Gln Met Thr Gln Ser Pro Xaa Ser Leu Xaa Xaa Xaa Xaa Gly
 1           5           10           15
Xaa Xaa Xaa Xaa Ile Xaa Cys
                20

```

<210> 129

<211> 23

<212> PRT

<213> Artificial Sequence

<220>

<223> Exemplary motif

<221> VARIANT

<222> 9

<223> Xaa = Leu or Ser

<221> VARIANT

<222> 13

<223> Xaa = small amino acid (e.g., fewer than four side chain carbons, e.g., Ala, Val, or Gly)

<221> VARIANT

<222> 14

<223> Xaa = Thr or Ser

<221> VARIANT

<222> 15

<223> Xaa = Val or Pro

<221> VARIANT

<222> 17

<223> Xaa = Ala, Val, or Ile

<221> VARIANT

<222> 17

<223> Xaa = Glu, Asp, or Gly

<221> VARIANT

<222> 18

<223> Xaa = Pro or Arg

<221> VARIANT

<222> 19

<223> Xaa = Ala or Val

<221> VARIANT

<222> 20, 22

<223> Xaa = Ser or Thr

<400> 129

```

Asp Ile Gln Met Thr Gln Ser Pro Xaa Ser Leu Pro Xaa Xaa Xaa Gly
 1           5           10           15

```

Xaa Xaa Xaa Xaa Ile Xaa Cys
20

<210> 130
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<223> Exemplary motif

<221> VARIANT
<222> 9
<223> Xaa = any amino acid (e. g., leucine or serine)

<221> VARIANT
<222> 17
<223> Xaa = any amino acid (e.g., glycine or glutamic acid)

<400> 130
Asp Ile Gln Met Thr Gln Ser Pro Xaa Ser Leu Pro Val Thr Pro Gly
1 5 10 15
Xaa Pro Ala Ser Ile Ser Cys
20

<210> 131
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Exemplary motif

<221> VARIANT
<222> 3
<223> Xaa = Leu or Gln

<221> VARIANT
<222> 4
<223> Xaa = Gln or Arg

<221> VARIANT
<222> 5
<223> Xaa =Lys or Arg

<221> VARIANT
<222> 8, 11
<223> Xaa = Gln or Lys

<221> VARIANT
<222> 9
<223> Xaa = Ser or Ala

<400> 131
Trp Tyr Xaa Xaa Xaa Pro Gly Xaa Xaa Pro Xaa Leu Leu Ile Tyr
1 5 10 15

<210> 132
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 132
 Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr
 1 5 10 15

<210> 133
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 133
 Trp Tyr Gln Arg Arg Pro Gly Lys Ala Pro Lys Leu Leu Ile Tyr
 1 5 10 15

<210> 134
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<221> VARIANT
 <222> 4
 <223> Xaa = Asp or Ser

<400> 134
 Gly Val Pro Xaa Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
 1 5 10 15

<210> 135
 <211> 32
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 135
 Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 1 5 10 15
 Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys
 20 25 30

<210> 136
 <211> 32

```

<212> PRT
<213> Artificial Sequence

<220>
<223> Synthetically generated peptide

<221> VARIANT
<222> 4
<223> Xaa = any amino acid (e.g., Asp or Ser)

<221> VARIANT
<222> 16
<223> Xaa = any amino acid (e.g., Thr or Ala)

<221> VARIANT
<222> 18
<223> Xaa = any amino acid (e.g., Lys or Thr)

<221> VARIANT
<222> 20
<223> Xaa = amino acid (e.g., Ser or Asn)

<221> VARIANT
<222> 21
<223> Xaa = any amino acid (e.g., Arg, Gly, or Ser)

<221> VARIANT
<222> 22
<223> Xaa = any amino acid (e.g., Val or Leu)

<221> VARIANT
<222> 23
<223> Xaa = any amino acid (e.g., Glu or Gln)

<221> VARIANT
<222> 24
<223> Xaa = any amino acid (e.g., Ala or Pro)

<221> VARIANT
<222> 27
<223> Xaa = any amino acid (e.g., Val or Phe)

<221> VARIANT
<222> 28
<223> Xaa = any amino acid (e.g., Gly or Ala)

<221> VARIANT
<222> 29
<223> Xaa = any amino acid (Val, Thr, or Ala)

<221> VARIANT
<222> 31
<223> Xaa = aromatic

<400> 136
Gly Val Pro Xaa Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Xaa
 1             5             10             15

```

Leu Xaa Ile Xaa Xaa Xaa Xaa Xaa Glu Asp Xaa Xaa Xaa Tyr Xaa Cys
 20 25 30

<210> 137
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<221> VARIANT
 <222> 3
 <223> Xaa = any amino acid (e.g., Gly, Gln, or Pro)

<221> VARIANT
 <222> 6
 <223> Xaa = Lys, Thr, or Arg

<221> VARIANT
 <222> 7
 <223> Xaa = hydrophobic (e.g., aliphatic, e.g., Val or Leu)

<221> VARIANT
 <222> 8
 <223> Xaa = hydrophilic (e.g., Glu, Asp, or Thr)

<400> 137
 Phe Gly Xaa Gly Thr Xaa Xaa Xaa Ile Lys
 1 5 10

<210> 138
 <211> 10
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<221> VARIANT
 <222> 3
 <223> Xaa = glycine or glutamine

<221> VARIANT
 <222> 7
 <223> Xaa = hydrophobic (e.g., leucine or valine)

<400> 138
 Phe Gly Xaa Gly Thr Lys Xaa Glu Ile Lys
 1 5 10

<210> 139
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 139

Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln	Pro	Gly	Gly
1				5				10						15	
Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe	Ser		
			20					25					30		

<210> 140

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 140

Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu	Glu	Trp	Val	Ser
1				5				10					

<210> 141

<211> 32

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<221> VARIANT

<222> 29

<223> Xaa = any amino acid, e.g., tyrosine or histidine

<221> VARIANT

<222> 32

<223> Xaa = any amino acid, e.g., arginine, glycine or leucine

<400> 141

Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr	Leu	Tyr	Leu	Gln
1				5				10						15	
Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Xaa	Cys	Ala	Xaa
			20					25					30		

<210> 142

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<221> VARIANT

<222> 1

<223> Xaa = any amino acid (e.g., asparagine or tyrosine)

<221> VARIANT

<222> 6

<223> Xaa = any amino acid (e.g., alanine or threonine)

<400> 142

Xaa	Trp	Gly	Gln	Gly	Xaa	Leu	Val	Thr	Val	Ser
1				5					10	

<210> 143

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 143

Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Ser
1				5					10		

<210> 144

<211> 238

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 144

Met	Gly	Trp	Ser	Cys	Ile	Ile	Leu	Phe	Leu	Val	Ala	Thr	Ala	Thr	Gly
1				5					10					15	
Val	His	Ser	Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val
			20					25					30		
Thr	Pro	Gly	Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu
		35					40					45			
Leu	His	Ser	Asn	Gly	Tyr	Asn	Tyr	Leu	Asp	Trp	Tyr	Leu	Gln	Lys	Pro
	50					55				60					
Gly	Gln	Ser	Pro	Gln	Leu	Ile	Tyr	Leu	Gly	Ser	Asn	Arg	Ala	Ser	
65					70				75					80	
Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr
				85				90						95	
Leu	Lys	Ile	Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys
			100					105					110		
Met	Gln	Ala	Leu	Gln	Thr	Pro	Pro	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Val
		115					120					125			
Glu	Ile	Lys	Arg	Thr	Val	Ala	Ala	Pro	Ser	Val	Phe	Ile	Phe	Pro	Pro
	130					135					140				
Ser	Asp	Glu	Gln	Leu	Lys	Ser	Gly	Thr	Ala	Ser	Val	Val	Cys	Leu	Leu
145					150					155					160
Asn	Asn	Phe	Tyr	Pro	Arg	Glu	Ala	Lys	Val	Gln	Trp	Lys	Val	Asp	Asn
				165					170					175	
Ala	Leu	Gln	Ser	Gly	Asn	Ser	Gln	Glu	Ser	Val	Thr	Glu	Gln	Asp	Ser
			180				185						190		
Lys	Asp	Ser	Thr	Tyr	Ser	Leu	Ser	Thr	Leu	Thr	Leu	Ser	Lys	Ala	
	195						200					205			
Asp	Tyr	Glu	Lys	His	Lys	Val	Tyr	Ala	Cys	Glu	Val	Thr	His	Gln	Gly
	210						215								220

Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 225 230 235

<210> 145
 <211> 238
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 145
 Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
 1 5 10 15
 Val His Ser Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Pro Val
 20 25 30
 Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu
 35 40 45
 Leu His Ser Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro
 50 55 60
 Gly Gln Ser Pro Gln Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser
 65 70 75 80
 Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 85 90 95
 Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys
 100 105 110
 Met Gln Ala Leu Gln Thr Pro Trp Thr Phe Gly Gln Gly Thr Lys Leu
 115 120 125
 Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
 130 135 140
 Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
 145 150 155 160
 Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
 165 170 175
 Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
 180 185 190
 Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
 195 200 205
 Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
 210 215 220
 Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 225 230 235

<210> 146
 <211> 237
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 146
 Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
 1 5 10 15
 Val His Ser Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Pro Val
 20 25 30
 Thr Pro Gly Gly Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu

```

      35              40              45
Leu His Ser Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro
  50              55              60
Gly Gln Ser Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser
  65              70              75              80
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
      85              90              95
Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys
      100              105              110
Met Gln Ala Leu Gln Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu
      115              120              125
Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser
      130              135              140
Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
  145              150              155              160
Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
      165              170              175
Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys
      180              185              190
Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp
      195              200              205
Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu
      210              215              220
Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
  225              230              235

```

<210> 147

<211> 238

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 147

```

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
  1              5              10              15
Val His Ser Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Pro Val
      20              25              30
Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu
      35              40              45
Leu His Ser Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro
  50              55              60
Gly Gln Ser Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser
  65              70              75              80
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
      85              90              95
Leu Lys Ile Ser Gly Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys
      100              105              110
Met Gln Ala Leu Gln Thr Gly Tyr Thr Phe Gly Gln Gly Thr Lys Leu
      115              120              125
Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
      130              135              140
Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
  145              150              155              160
Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
      165              170              175

```

Ala	Leu	Gln	Ser	Gly	Asn	Ser	Gln	Glu	Ser	Val	Thr	Glu	Gln	Asp	Ser
		180						185					190		
Lys	Asp	Ser	Thr	Tyr	Ser	Leu	Ser	Ser	Thr	Leu	Thr	Leu	Ser	Lys	Ala
	195					200						205			
Asp	Tyr	Glu	Lys	His	Lys	Val	Tyr	Ala	Cys	Glu	Val	Thr	His	Gln	Gly
	210					215						220			
Leu	Ser	Ser	Pro	Val	Thr	Lys	Ser	Phe	Asn	Arg	Gly	Glu	Cys		
225					230					235					

<210> 148
 <211> 238
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400>	148														
Met	Gly	Trp	Ser	Cys	Ile	Ile	Leu	Phe	Leu	Val	Ala	Thr	Ala	Thr	Gly
1				5					10					15	
Val	His	Ser	Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val
			20					25					30		
Thr	Pro	Gly	Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu
		35					40					45			
Leu	His	Ser	Asn	Gly	Tyr	Asn	Tyr	Leu	Asp	Trp	Tyr	Leu	Gln	Lys	Pro
	50					55				60					
Gly	Gln	Ser	Pro	Gln	Leu	Leu	Ile	Tyr	Leu	Gly	Ser	Asn	Arg	Ala	Ser
65					70					75				80	
Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr
			85						90				95		
Leu	Lys	Ile	Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys
			100					105					110		
Met	Gln	Ala	Leu	Gln	Thr	Pro	Arg	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Val
	115					120						125			
Glu	Ile	Lys	Arg	Thr	Val	Ala	Ala	Pro	Ser	Val	Phe	Ile	Phe	Pro	Pro
	130					135					140				
Ser	Asp	Glu	Gln	Leu	Lys	Ser	Gly	Thr	Ala	Ser	Val	Val	Cys	Leu	Leu
145					150					155				160	
Asn	Asn	Phe	Tyr	Pro	Arg	Glu	Ala	Lys	Val	Gln	Trp	Lys	Val	Asp	Asn
			165						170					175	
Ala	Leu	Gln	Ser	Gly	Asn	Ser	Gln	Glu	Ser	Val	Thr	Glu	Gln	Asp	Ser
		180						185					190		
Lys	Asp	Ser	Thr	Tyr	Ser	Leu	Ser	Ser	Thr	Leu	Thr	Leu	Ser	Lys	Ala
	195					200						205			
Asp	Tyr	Glu	Lys	His	Lys	Val	Tyr	Ala	Cys	Glu	Val	Thr	His	Gln	Gly
	210					215						220			
Leu	Ser	Ser	Pro	Val	Thr	Lys	Ser	Phe	Asn	Arg	Gly	Glu	Cys		
225					230					235					

<210> 149
 <211> 238
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 149

```

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
 1           5           10           15
Val His Ser Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Pro Val
          20           25           30
Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu
          35           40           45
Leu His Ser Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro
          50           55           60
Gly Gln Ser Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser
65           70           75           80
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
          85           90           95
Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys
          100          105          110
Met Gln Ala Leu Gln Thr Pro Trp Thr Phe Gly Gln Gly Thr Lys Val
          115          120          125
Glu Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
          130          135          140
Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
145          150          155          160
Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
          165          170          175
Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
          180          185          190
Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
          195          200          205
Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
          210          215          220
Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
225          230          235

```

<210> 150

<211> 233

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 150

```

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
 1           5           10           15
Val His Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala
          20           25           30
Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile
          35           40           45
Gly Ser Tyr Leu Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys
          50           55           60
Leu Leu Ile Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg
65           70           75           80
Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser
          85           90           95
Leu Gln Pro Glu Asp Phe Ala Thr Tyr Cys Gln Gln Ser Tyr Ser
          100          105          110
Thr Pro Arg Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg Thr
          115          120          125

```

```

Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu
 130                      135                      140
Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro
 145                      150                      155                      160
Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly
                      165                      170                      175
Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr
                      180                      185                      190
Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His
                      195                      200                      205
Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val
 210                      215                      220
Thr Lys Ser Phe Asn Arg Gly Glu Cys
 225                      230

```

```

<210> 151
<211> 233
<212> PRT
<213> Artificial Sequence

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<220>
<223> Synthetically generated peptide

```

```

<400> 151
Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
 1                      5                      10                      15
Val His Ser Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Ser Ala
                      20                      25                      30
Ser Val Gly Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Ser Ile
                      35                      40                      45
Ser Ser His Leu Asn Trp Tyr Gln Arg Arg Pro Gly Lys Ala Pro Lys
 50                      55                      60
Leu Leu Ile Tyr Ala Ala Ser Ser Leu Gln Ser Gly Val Pro Ser Arg
 65                      70                      75                      80
Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Ala Leu Thr Ile Ser Ser
                      85                      90                      95
Leu Gln Pro Glu Asp Phe Ala Ala Tyr Phe Cys His Gln Ser Ser Ser
                      100                      105                      110
Thr Pro Pro Thr Phe Gly Gln Gly Thr Thr Val Glu Ile Lys Arg Thr
                      115                      120                      125
Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln Leu
 130                      135                      140
Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr Pro
 145                      150                      155                      160
Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser Gly
                      165                      170                      175
Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr Tyr
                      180                      185                      190
Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys His
                      195                      200                      205
Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro Val
 210                      215                      220
Thr Lys Ser Phe Asn Arg Gly Glu Cys
 225                      230

```

```

<210> 152
<211> 237

```

<212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 152
 Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
 1 5 10 15
 Val His Ser Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Pro Val
 20 25 30
 Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu
 35 40 45
 Leu His Ser Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro
 50 55 60
 Gly Gln Ser Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser
 65 70 75 80
 Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 85 90 95
 Leu Lys Ile Asn Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys
 100 105 110
 Met Gln Ala Leu Gln Thr Pro Thr Phe Gly Gln Gly Thr Lys Val Glu
 115 120 125
 Ile Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser
 130 135 140
 Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn
 145 150 155 160
 Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala
 165 170 175
 Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys
 180 185 190
 Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp
 195 200 205
 Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu
 210 215 220
 Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 225 230 235

<210> 153
 <211> 237
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 153
 Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
 1 5 10 15
 Val His Ser Asp Ile Gln Met Thr Gln Ser Pro Leu Ser Leu Pro Val
 20 25 30
 Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu
 35 40 45
 Leu His Ser Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro
 50 55 60
 Gly Gln Ser Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser
 65 70 75 80

Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	
				85					90					95		
Leu	Lys	Ile	Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	
			100					105					110			
Met	Gln	Ala	Leu	Gln	Pro	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	
		115					120					125				
Ile	Lys	Arg	Thr	Val	Ala	Ala	Pro	Ser	Val	Phe	Ile	Phe	Pro	Pro	Ser	
	130					135					140					
Asp	Glu	Gln	Leu	Lys	Ser	Gly	Thr	Ala	Ser	Val	Val	Cys	Leu	Leu	Asn	
145				150						155					160	
Asn	Phe	Tyr	Pro	Arg	Glu	Ala	Lys	Val	Gln	Trp	Lys	Val	Asp	Asn	Ala	
			165						170					175		
Leu	Gln	Ser	Gly	Asn	Ser	Gln	Glu	Ser	Val	Thr	Glu	Gln	Asp	Ser	Lys	
			180					185					190			
Asp	Ser	Thr	Tyr	Ser	Leu	Ser	Ser	Thr	Leu	Thr	Leu	Ser	Lys	Ala	Asp	
	195						200					205				
Tyr	Glu	Lys	His	Lys	Val	Tyr	Ala	Cys	Glu	Val	Thr	His	Gln	Gly	Leu	
	210					215					220					
Ser	Ser	Pro	Val	Thr	Lys	Ser	Phe	Asn	Arg	Gly	Glu	Cys				
225					230					235						

<210> 154

<211> 235

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 154

Met	Gly	Trp	Ser	Cys	Ile	Ile	Leu	Phe	Leu	Val	Ala	Thr	Ala	Thr	Gly	
1				5				10						15		
Val	His	Ser	Gln	Ser	Val	Leu	Thr	Gln	Pro	Ala	Ser	Val	Ser	Gly	Ser	
			20					25					30			
Pro	Gly	Gln	Ser	Ile	Thr	Ile	Ser	Cys	Thr	Gly	Thr	Ser	Ser	Asp	Val	
		35					40					45				
Gly	Gly	Tyr	Ser	Tyr	Val	Ser	Trp	Tyr	Gln	Gln	His	Pro	Gly	Lys	Ala	
	50					55					60					
Pro	Lys	Leu	Met	Ile	Tyr	Glu	Val	Ser	Asn	Arg	Pro	Ser	Gly	Val	Ser	
65				70						75					80	
Asn	Arg	Phe	Ser	Gly	Ser	Lys	Ser	Gly	Asn	Thr	Ala	Ser	Leu	Thr	Ile	
			85					90						95		
Ser	Gly	Leu	Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Asn	Ser	Tyr	
			100					105					110			
Thr	Ser	Ser	Ser	Thr	Lys	Met	Phe	Gly	Gly	Gly	Thr	Arg	Leu	Thr	Val	
	115						120					125				
Leu	Gly	Gln	Pro	Lys	Ala	Ala	Pro	Ser	Val	Thr	Leu	Phe	Pro	Pro	Ser	
	130					135					140					
Ser	Glu	Glu	Leu	Gln	Ala	Asn	Lys	Ala	Thr	Leu	Val	Cys	Leu	Ile	Ser	
145				150						155					160	
Asp	Phe	Tyr	Pro	Gly	Ala	Val	Thr	Val	Ala	Trp	Lys	Ala	Asp	Gly	Ser	
			165						170					175		
Pro	Val	Lys	Ala	Gly	Val	Glu	Thr	Thr	Lys	Pro	Ser	Lys	Gln	Ser	Asn	
		180						185					190			
Asn	Lys	Tyr	Ala	Ala	Ser	Ser	Tyr	Leu	Ser	Leu	Thr	Pro	Glu	Gln	Trp	
	195						200					205				
Lys	Ser	His	Arg	Ser	Tyr	Ser	Cys	Gln	Val	Thr	His	Glu	Gly	Ser	Thr	

210	215	220
Val Glu Lys Thr Val	Ala Pro Ala Glu Cys Ser	
225	230	235

<210> 155
 <211> 462
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 155

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly	
1 5 10 15	
Ala His Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln	
20 25 30	
Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe	
35 40 45	
Ser Glu Tyr Gly Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu	
50 55 60	
Glu Trp Val Ser Ser Ile Val Ser Ser Gly Gly Phe Thr Phe Tyr Ala	
65 70 75 80	
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn	
85 90 95	
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val	
100 105 110	
Tyr Tyr Cys Ala Arg Gly Thr Arg Thr Val Thr Asn Trp Gly Gln Gly	
115 120 125	
Ala Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe	
130 135 140	
Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu	
145 150 155 160	
Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp	
165 170 175	
Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu	
180 185 190	
Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser	
195 200 205	
Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys Pro	
210 215 220	
Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro	
225 230 235 240	
Cys Pro Ser Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe	
245 250 255	
Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro	
260 265 270	
Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val	
275 280 285	
Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr	
290 295 300	
Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val	
305 310 315 320	
Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys	
325 330 335	
Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser	
340 345 350	

Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro
 355 360 365
 Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val
 370 375 380
 Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly
 385 390 395 400
 Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp
 405 410 415
 Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp
 420 425 430
 Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His
 435 440 445
 Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys
 450 455 460

<210> 156
 <211> 464
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 156
 Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
 1 5 10 15
 Ala His Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45
 Ser Leu Tyr Arg Met Arg Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60
 Glu Trp Val Ser Ser Ile Ser Pro Ser Gly Gly Ile Thr Glu Tyr Ala
 65 70 75 80
 Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
 85 90 95
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
 100 105 110
 Tyr Tyr Cys Ala Leu Asp Val Gly Val Gly Ala Ala Asp Tyr Trp Gly
 115 120 125
 Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
 130 135 140
 Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala
 145 150 155 160
 Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
 165 170 175
 Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
 180 185 190
 Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
 195 200 205
 Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His
 210 215 220
 Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly
 225 230 235 240
 Pro Pro Cys Pro Ser Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser
 245 250 255
 Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg

			260					265					270			
Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	Gln	Glu	Asp	Pro	
		275						280				285				
Glu	Val	Gln	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	
	290					295					300					
Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Tyr	Arg	Val	Val	
305					310					315					320	
Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	
				325					330					335		
Lys	Cys	Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ser	Ser	Ile	Glu	Lys	Thr	
			340					345					350			
Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	
		355					360					365				
Pro	Pro	Ser	Gln	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	
	370					375					380					
Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	
385					390				395						400	
Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	
			405						410					415		
Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Arg	Leu	Thr	Val	Asp	Lys	Ser	
			420					425					430			
Arg	Trp	Gln	Glu	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	
		435					440					445				
Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Leu	Gly	Lys	
	450					455					460					

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<210> 157
<211> 469
<212> PRT
<213> Artificial Sequence
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<220>
<223> Synthetically generated peptide

<400> 157															
Met 1	Gly	Trp	Ser	Cys 5	Ile	Ile	Leu	Phe	Leu 10	Val	Ala	Thr	Ala 15	Thr	Gly
Ala	His	Ser	Glu 20	Val	Gln	Leu	Leu 25	Glu	Ser	Gly	Gly	Gly	Leu 30	Val	Gln
Pro	Gly	Gly 35	Ser	Leu	Arg	Leu 40	Ser	Cys	Ala	Ala	Ser	Gly 45	Phe	Thr	Phe
Ser 50	Pro	Tyr	Leu	Met	Ser	Trp 55	Val	Arg	Gln	Ala	Pro 60	Gly	Lys	Gly	Leu
Glu 65	Trp	Val	Ser	Ser	Ile 70	Tyr	Ser	Ser	Gly	Gly 75	Leu	Thr	Asp	Tyr	Ala 80
Asp	Ser	Val	Lys 85	Gly	Arg	Phe	Thr	Ile	Ser 90	Arg	Asp	Asn	Ser	Lys 95	Asn
Thr	Leu	Tyr	Leu 100	Gln	Met	Asn	Ser	Leu 105	Arg	Ala	Glu	Asp	Thr 110	Ala	Val
Tyr	His	Cys 115	Ala	Arg	Asp	Gly	Tyr 120	Tyr	Asp	Ser	Ser	Gly 125	Tyr	Glu	Gly
Phe	Asp 130	Tyr	Trp	Gly	Gln	Gly 135	Thr	Leu	Val	Thr	Val 140	Ser	Ser	Ala	Ser
Thr 145	Lys	Gly	Pro	Ser	Val 150	Phe	Pro	Leu	Ala	Pro 155	Cys	Ser	Arg	Ser	Thr 160
Ser	Glu	Ser	Thr	Ala 165	Ala	Leu	Gly	Cys	Leu 170	Val	Lys	Asp	Tyr	Phe 175	Pro

Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
 180 185 190
 His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
 195 200 205
 Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr
 210 215 220
 Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val
 225 230 235 240
 Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro Ala Pro Glu Phe
 245 250 255
 Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
 260 265 270
 Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
 275 280 285
 Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
 290 295 300
 Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
 305 310 315 320
 Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
 325 330 335
 Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
 340 345 350
 Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
 355 360 365
 Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
 370 375 380
 Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
 385 390 395 400
 Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
 405 410 415
 Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu
 420 425 430
 Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser
 435 440 445
 Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser
 450 455 460
 Leu Ser Leu Gly Lys
 465

<210> 158

<211> 464

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 158

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
 1 5 10 15
 Ala His Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
 20 25 30
 Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
 35 40 45
 Ser Lys Tyr Thr Met Trp Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
 50 55 60
 Glu Trp Val Ser Ser Ile Trp Ser Ser Gly Gly Phe Thr Arg Tyr Ala

65					70					75					80
Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn
				85					90					95	
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val
			100					105					110		
Tyr	Tyr	Cys	Ala	Gly	Arg	Ser	Gly	Ser	Tyr	Pro	Ala	Asp	Ile	Trp	Gly
		115					120					125			
Gln	Gly	Thr	Met	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser
	130					135					140				
Val	Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	Thr	Ala
145					150					155					160
Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val
			165						170					175	
Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala
		180						185					190		
Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val
	195						200					205			
Pro	Ser	Ser	Ser	Leu	Gly	Thr	Lys	Thr	Tyr	Thr	Cys	Asn	Val	Asp	His
	210				215						220				
Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Ser	Lys	Tyr	Gly
225					230					235					240
Pro	Pro	Cys	Pro	Ser	Cys	Pro	Ala	Pro	Glu	Phe	Leu	Gly	Gly	Pro	Ser
			245						250					255	
Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg
		260						265					270		
Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	Gln	Glu	Asp	Pro
	275						280					285			
Glu	Val	Gln	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala
	290					295				300					
Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Tyr	Arg	Val	Val
305					310					315					320
Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr
			325						330					335	
Lys	Cys	Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ser	Ser	Ile	Glu	Lys	Thr
		340					345						350		
Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu
	355						360					365			
Pro	Pro	Ser	Gln	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys
	370					375					380				
Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser
385					390					395					400
Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp
			405						410					415	
Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Arg	Leu	Thr	Val	Asp	Lys	Ser
		420						425					430		
Arg	Trp	Gln	Glu	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala
	435						440					445			
Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Leu	Gly	Lys
	450					455					460				

<210> 159

<211> 460

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 159

Met	Gly	Trp	Ser	Cys	Ile	Ile	Leu	Phe	Leu	Val	Ala	Thr	Ala	Thr	Gly
1				5					10					15	
Ala	His	Ser	Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln
			20					25					30		
Pro	Gly	Gly	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe
		35					40					45			
Ser	His	Tyr	Ser	Met	Met	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu
	50					55					60				
Glu	Trp	Val	Ser	Ser	Ile	Phe	Pro	Gly	Gly	Trp	Thr	Leu	Tyr	Ala	Asp
65					70					75					80
Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn	Thr
				85					90					95	
Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr
			100					105					110		
Tyr	Cys	Ala	Arg	Asp	Arg	Ala	Ala	Ala	Tyr	Trp	Gly	Gln	Gly	Thr	Leu
	115					120						125			
Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu
	130					135					140				
Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	Thr	Ala	Ala	Leu	Gly	Cys
145					150					155					160
Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser
				165					170					175	
Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser
			180					185					190		
Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser
		195					200					205			
Leu	Gly	Thr	Lys	Thr	Tyr	Thr	Cys	Asn	Val	Asp	His	Lys	Pro	Ser	Asn
	210					215					220				
Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Ser	Lys	Tyr	Gly	Pro	Pro	Cys	Pro
225					230					235					240
Ser	Cys	Pro	Ala	Pro	Glu	Phe	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe
				245					250					255	
Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val
			260					265					270		
Thr	Cys	Val	Val	Val	Asp	Val	Ser	Gln	Glu	Asp	Pro	Glu	Val	Gln	Phe
		275					280					285			
Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro
	290					295					300				
Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr
305					310					315					320
Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val
				325					330					335	
Ser	Asn	Lys	Gly	Leu	Pro	Ser	Ser	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala
			340					345					350		
Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Gln
		355					360					365			
Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly
	370					375					380				
Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro
385					390					395					400
Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser
				405					410					415	
Phe	Phe	Leu	Tyr	Ser	Arg	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Glu
			420					425					430		
Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His

	435		440		445
Tyr	Thr	Gln	Lys	Ser	Leu
	450		455		460

<210> 160
 <211> 463
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 160

Met	Gly	Trp	Ser	Cys	Ile	Ile	Leu	Phe	Leu	Val	Ala	Thr	Ala	Thr	Gly
1				5				10						15	
Ala	His	Ser	Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln
			20					25					30		
Pro	Gly	Gly	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe
			35				40					45			
Ser	Asn	Tyr	Thr	Met	Asn	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu
	50					55					60				
Glu	Trp	Val	Ser	Ser	Ile	Val	Ser	Ser	Gly	Gly	Phe	Thr	Lys	Tyr	Ala
65					70					75					80
Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn
				85					90					95	
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val
			100					105					110		
Tyr	Tyr	Cys	Ala	Arg	Gly	Trp	Ser	Ser	Gln	Pro	Ala	Ile	Trp	Gly	Gln
		115					120					125			
Gly	Ser	Leu	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val
	130					135					140				
Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser	Thr	Ala	Ala
145					150					155					160
Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser
			165						170					175	
Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val
		180						185					190		
Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro
		195					200					205			
Ser	Ser	Ser	Leu	Gly	Thr	Lys	Thr	Tyr	Thr	Cys	Asn	Val	Asp	His	Lys
	210					215					220				
Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Arg	Val	Glu	Ser	Lys	Tyr	Gly	Pro
225				230						235					240
Pro	Cys	Pro	Ser	Cys	Pro	Ala	Pro	Glu	Phe	Leu	Gly	Gly	Pro	Ser	Val
				245					250					255	
Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr
			260					265					270		
Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	Gln	Glu	Asp	Pro	Glu
		275						280				285			
Val	Gln	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys
	290					295					300				
Thr	Lys	Pro	Arg	Glu	Glu	Gln	Phe	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser
305				310						315					320
Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys
				325					330					335	
Cys	Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ser	Ser	Ile	Glu	Lys	Thr	Ile
			340					345					350		

```

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro
   355                               360                   365
Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu
   370                               375                   380
Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn
   385                               390                   395                   400
Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Thr Pro Pro Val Leu Asp Ser
                               405                   410                   415
Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg
                               420                   425                   430
Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu
   435                               440                   445
His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys
   450                               455                   460

```

<210> 161

<211> 468

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 161

```

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
  1                               5                               10                   15
Ala His Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
   20                               25                               30
Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
   35                               40                               45
Ser Trp Tyr Ser Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
   50                               55                               60
Glu Trp Val Ser Ser Ile Gly Pro Ser Gly Gly Gln Thr Arg Tyr Ala
   65                               70                               75                   80
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
   85                               90                               95
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
  100                               105                               110
Tyr Tyr Cys Ala Arg Asp Tyr Tyr Asp Ser Ser Gly Tyr Ser Tyr Phe
  115                               120                               125
Asp Tyr Trp Gly Gln Gly Thr Gln Val Thr Val Ser Ser Ala Ser Thr
  130                               135                               140
Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser
  145                               150                               155                   160
Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu
   165                               170                               175
Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His
  180                               185                               190
Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser
  195                               200                               205
Val Val Thr Val Pro Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys
  210                               215                               220
Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu
  225                               230                               235                   240
Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro Ala Pro Glu Phe Leu
   245                               250                               255
Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu

```

[illegible]

```
<210> 162
<211> 466
<212> PRT
<213> Artificial Sequence
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<220>
<223> Synthetically generated peptide

<400>	162														
Met	Gly	Trp	Ser	Cys	Ile	Ile	Leu	Phe	Leu	Val	Ala	Thr	Ala	Thr	Gly
1				5					10					15	
Ala	His	Ser	Glu	Val	Gln	Leu	Leu	Glu	Ser	Gly	Gly	Gly	Leu	Val	Gln
			20					25					30		
Pro	Gly	Gly	Ser	Leu	Arg	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe
		35					40					45			
Ser	Pro	Tyr	Gly	Met	Asp	Trp	Val	Arg	Gln	Ala	Pro	Gly	Lys	Gly	Leu
	50					55					60				
Glu	Trp	Val	Ser	Ser	Ile	Ser	Pro	Ser	Gly	Gly	Thr	Thr	Leu	Tyr	Ala
65					70					75					80
Asp	Ser	Val	Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ser	Lys	Asn
				85					90					95	
Thr	Leu	Tyr	Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val
			100					105					110		
Tyr	Tyr	Cys	Ala	Arg	Gln	Lys	Arg	Ser	Ser	Leu	Gly	Ala	Phe	Asp	Ile
		115					120					125			
Trp	Gly	Gln	Gly	Thr	Met	Val	Thr	Val	Ser	Ser	Ala	Ser	Thr	Lys	Gly
	130					135					140				
Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Cys	Ser	Arg	Ser	Thr	Ser	Glu	Ser
145					150					155					160


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Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val
      165      170      175
Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe
      180      185      190
Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val
      195      200      205
Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val
      210      215      220
Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys
      225      230      235      240
Tyr Gly Pro Pro Cys Pro Ser Cys Pro Ala Pro Glu Phe Leu Gly Gly
      245      250      255
Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile
      260      265      270
Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu
      275      280      285
Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His
      290      295      300
Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg
      305      310      315      320
Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys
      325      330      335
Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu
      340      345      350
Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr
      355      360      365
Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu
      370      375      380
Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp
      385      390      395      400
Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val
      405      410      415
Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp
      420      425      430
Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His
      435      440      445
Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu
      450      455      460
Gly Lys
465

```

```

<210> 163
<211> 462
<212> PRT
<213> Artificial Sequence

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```

<220>
<223> Synthetically generated peptide

```

```

<400> 163
Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
  1      5      10      15
Ala His Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
      20      25      30
Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
      35      40      45
Ser Tyr Tyr Gly Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu

```

50		55		60
Glu Trp Val Ser Ser Ile Gly Pro Ser Gly Gly Leu Thr Asn Tyr Ala				
65		70		80
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn				
	85		90	95
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val				
	100		105	110
Tyr Tyr Cys Ala Arg Gly Thr Arg Thr Val Thr Asn Trp Gly Gln Gly				
	115		120	125
Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val Phe				
	130		135	140
Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala Leu				
	145		150	160
Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp				
	165		170	175
Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu				
	180		185	190
Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser				
	195		200	205
Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys Pro				
	210		215	220
Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro Pro				
	225		230	240
Cys Pro Ser Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val Phe				
	245		250	255
Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro				
	260		265	270
Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu Val				
	275		280	285
Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr				
	290		295	300
Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser Val				
	305		310	320
Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys				
	325		330	335
Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile Ser				
	340		345	350
Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro				
	355		360	365
Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val				
	370		375	380
Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly				
	385		390	400
Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp				
	405		410	415
Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg Trp				
	420		425	430
Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His				
	435		440	445
Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys				
	450		455	460

<210> 164

<211> 469

<212> PRT

<213> Artificial Sequence

<220>

<223> Synthetically generated peptide

<400> 164

```

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1      5      10      15
Ala His Ser Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln
20      25      30
Pro Gly Gly Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe
35      40      45
Ser Pro Tyr Leu Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu
50      55      60
Glu Trp Val Ser Ser Ile Tyr Ser Ser Gly Gly Leu Thr Asp Tyr Ala
65      70      75      80
Asp Ser Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn
85      90      95
Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val
100     105     110
Tyr Tyr Cys Ala Arg Asp Gly Tyr Tyr Asp Ser Ser Gly Tyr Glu Gly
115     120     125
Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser
130     135     140
Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr
145     150     155     160
Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro
165     170     175
Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val
180     185     190
His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser
195     200     205
Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr
210     215     220
Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys Arg Val
225     230     235     240
Glu Ser Lys Tyr Gly Pro Pro Cys Pro Ser Cys Pro Ala Pro Glu Phe
245     250     255
Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr
260     265     270
Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val
275     280     285
Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly Val
290     295     300
Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser
305     310     315     320
Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu
325     330     335
Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro Ser
340     345     350
Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro
355     360     365
Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys Asn Gln
370     375     380
Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala
385     390     395     400
Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr
405     410     415
Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu

```

	420		425		430
Thr Val Asp	Lys Ser Arg Trp	Gln Glu Gly Asn Val	Phe Ser Cys Ser		
435		440	445		
Val Met His	Glu Ala Leu His	Asn His Tyr Thr	Gln Lys Ser Leu Ser		
450		455	460		
Leu Ser Leu	Gly Lys				
465					

<210> 165
 <211> 462
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 165

Met Gly Trp	Ser Cys Ile Ile	Leu Phe Leu Val	Ala Thr Ala Thr	Gly
1	5	10	15	
Ala His Ser	Glu Val Gln Leu	Leu Glu Ser Gly	Gly Gly Leu Val	Gln
20		25	30	
Pro Gly Gly	Ser Leu Arg Leu	Ser Cys Ala Ala	Ser Gly Phe Thr	Phe
35		40	45	
Ser Lys Tyr	Ser Met Glu Trp	Val Arg Gln Ala	Pro Gly Lys Gly	Leu
50	55	60		
Glu Trp Val	Ser Arg Ile Tyr	Pro Ser Gly Gly	Pro Thr Leu Tyr	Ala
65	70	75	80	
Asp Ser Val	Lys Gly Arg Phe	Thr Ile Ser Arg	Asp Asn Ser Lys	Asn
85		90	95	
Thr Leu Tyr	Leu Gln Met Asn	Ser Leu Arg Ala	Glu Asp Thr Ala	Val
100		105	110	
Tyr Tyr Cys	Ala Arg Asp Ser	Tyr Gly Met Asp	Val Trp Gly Gln	Gly
115		120	125	
Thr Thr Val	Thr Val Ser Ser	Ala Ser Thr Lys	Gly Pro Ser Val	Phe
130	135	140		
Pro Leu Ala	Pro Cys Ser Arg	Ser Thr Ser Glu	Ser Thr Ala Ala	Leu
145	150	155	160	
Gly Cys Leu	Val Lys Asp Tyr	Phe Pro Glu Pro	Val Thr Val Ser	Trp
165		170	175	
Asn Ser Gly	Ala Leu Thr Ser	Gly Val His Thr	Phe Pro Ala Val	Leu
180		185	190	
Gln Ser Ser	Gly Leu Tyr Ser	Leu Ser Ser Val	Val Thr Val Pro	Ser
195		200	205	
Ser Ser Leu	Gly Thr Lys Thr	Tyr Thr Cys Asn	Val Asp His Lys	Pro
210	215	220		
Ser Asn Thr	Lys Val Asp Lys	Arg Val Glu Ser	Lys Tyr Gly Pro	Pro
225	230	235	240	
Cys Pro Ser	Cys Pro Ala Pro	Glu Phe Leu Gly	Gly Pro Ser Val	Phe
245		250	255	
Leu Phe Pro	Pro Lys Pro Lys	Asp Thr Leu Met	Ile Ser Arg Thr	Pro
260		265	270	
Glu Val Thr	Cys Val Val Val	Asp Val Ser Gln	Glu Asp Pro Glu	Val
275		280	285	
Gln Phe Asn	Trp Tyr Val Asp	Gly Val Glu Val	His Asn Ala Lys	Thr
290	295	300		
Lys Pro Arg	Glu Glu Gln Phe	Asn Ser Thr Tyr	Arg Val Val Ser	Val
305	310	315	320	

Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys
				325					330					335	
Lys	Val	Ser	Asn	Lys	Gly	Leu	Pro	Ser	Ser	Ile	Glu	Lys	Thr	Ile	Ser
			340					345					350		
Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro
		355					360					365			
Ser	Gln	Glu	Glu	Met	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu	Val
	370					375					380				
Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly
385					390					395					400
Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp
			405						410					415	
Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Arg	Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp
		420						425					430		
Gln	Glu	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu	His
		435					440					445			
Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Leu	Gly	Lys		
	450					455					460				